

EXECUTIVE SUMMARY

Thank you for your continued hard work sampling **French Pond** this year! Your monitoring group sampled the deep spot **one** time and the tributaries **three** times during rain event this year! As you know, conducting multiple sampling events each year enables DES to more accurately detect water quality changes. We congratulate your group for sampling the **deep spot once** this summer. However, we encourage your monitoring group to sample the **deep spot additional** times each summer.

We encourage your monitoring group to formally participate in the DES Weed Watchers program, a volunteer program dedicated to monitoring lakes and ponds for the presence of exotic aquatic plants. This program only involves a small amount of time during the summer months. Volunteers survey their waterbody once a month from **May** through **September**. To survey, volunteers slowly boat, or even snorkel, around the perimeter of the waterbody and any islands it may contain. Using the materials provided in the Weed Watcher kit, volunteers look for any species that are suspicious. After a trip or two around the waterbody, volunteers will have a good knowledge of its plant community and will immediately notice even the most subtle changes. If a suspicious plant is found, the volunteers immediately send a specimen to DES for identification. If the plant specimen is an exotic species, a biologist will visit the site to determine the extent of the problem and to formulate a management plan to control the nuisance infestation. Early detection is the key to controlling the spread of exotic plants.

If you would like to help protect your lake or pond from exotic plant infestations, contact Amy Smagula, Exotic Species Program Coordinator, at 271-2248 or visit the Weed Watchers website at www.des.state.nh.us/wmb/exoticspecies/survey.htm.

In 2004, the Natural Resources Conservation Service (NRCS) contacted DES regarding an organic dairy farm proposal within the French Pond watershed. NRCS recognized the importance of protecting water quality within this watershed, especially since French Pond had a history of algae blooms, including Cyanobacteria.

In a letter to NRCS, DES made several recommendations including routine soil testing, maintaining forested buffers of 300-600 feet to the pond, no pasturing within the Launch Brook watershed, manure storage outside of the pond's watershed and pasture management to maintain vegetative cover. In addition, DES collected additional water quality samples prior to the start of the dairy operation to document bacteria and phosphorus pre-operation stormwater runoff conditions.

In March, 2007, the land owner contacted DES, concerned that that operation may be impacting the water quality of French Pond. In response, DES conducted several site inspections and collected additional water quality

2007

samples. Bacteria and phosphorus concentrations in stormwater runoff from the site had substantially increased since the operation began. In June, 2007, DES sent a letter of deficiency to the manager of the dairy operation specifying necessary actions to achieve compliance with the state's surface water quality regulations.

In December, 2007, the NH Supreme Court upheld a previous ruling to evict the dairy farm operation and remove all the cows from the site.

OBSERVATIONS & RECOMMENDATIONS

DEEP SPOT

➤ **Chlorophyll-a**

Chlorophyll-a, a pigment found in plants, is an indicator of algal abundance. Algae are typically microscopic plants that are naturally found in the lake ecosystem. The measurement of chlorophyll-a in the water gives biologists an estimation of the algal concentration or lake productivity. Table 14 in Appendix A lists the current year chlorophyll-a data.

Figure 1 depicts the historical and current year chlorophyll-a concentration in the water column.

The median summer chlorophyll-a concentration for New Hampshire's lakes and ponds is 4.58 mg/m³.

The current year data (the top graph) show that the chlorophyll-a concentration was **18.98 mg/m³** in **July**. Chlorophyll-a concentration above **15 mg/m³** is indicative of an algal bloom, and a cyanobacteria bloom was noted in the pond.

The historical data (the bottom graph) show that the **2007** chlorophyll-a mean is ***much greater than*** the state and similar lake medians. For more information on the similar lake median, refer to Appendix D.

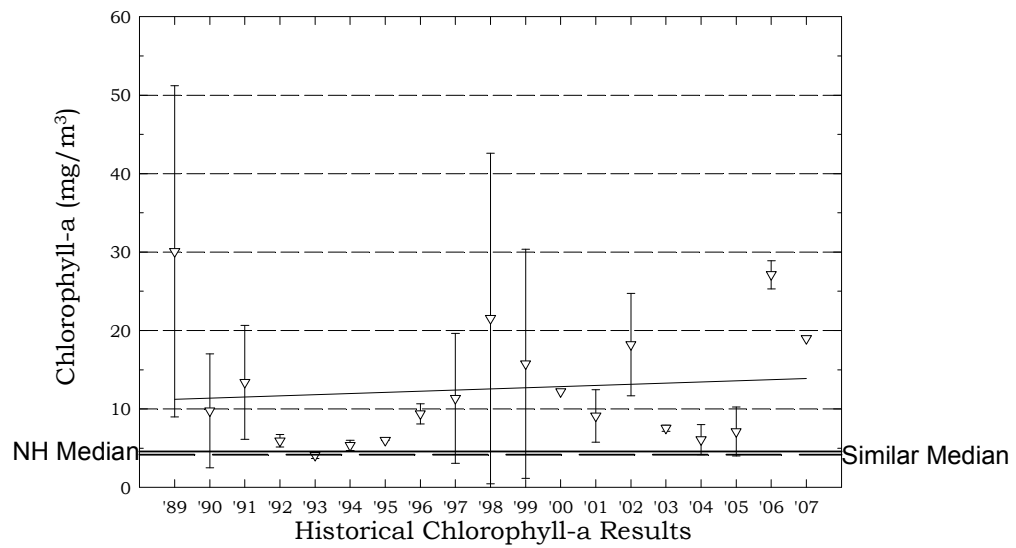
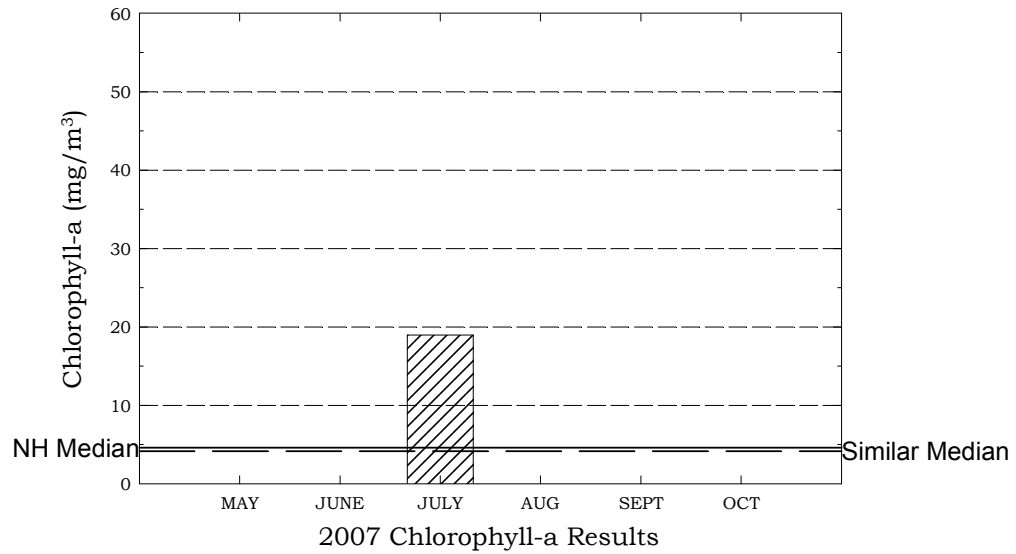
Overall, visual inspection of the historical data trend line (the bottom graph) shows a ***slightly increasing yet variable*** in-lake chlorophyll-a trend since monitoring began. Specifically the mean chlorophyll concentration has ***fluctuated between approximately 4.0 and 30.0 mg/m³*** since **1989**.

While algae are naturally present in all waterbodies, an excessive or increasing amount of any type is not welcomed. Phosphorus is the nutrient that algae typically depend upon for growth in New Hampshire lakes and ponds. Algal concentrations increase as nonpoint sources of phosphorus from the watershed increase, or as in-lake phosphorus sources increase. Increased Chlorophyll-a concentrations can also affect water clarity, causing Secchi-disk transparency to decrease (worsen) and turbidity to increase (worsen).

Therefore, it is extremely important for volunteer monitors to continually educate all watershed residents about management practices that can be implemented to minimize phosphorus loading to surface waters.

French Pond, Henniker

Figure 1. Monthly and Historical Chlorophyll-a Results



➤ **Phytoplankton and Cyanobacteria**

A biologist visit was not conducted in **2007** therefore a plankton haul was not collected from the deep spot.

Phytoplankton populations undergo a natural succession during the growing season. Please refer to the “Biological Monitoring Parameters” section of this report for a more detailed explanation regarding seasonal plankton succession. Diatoms and golden-brown algae populations are typical in New Hampshire’s less productive lakes and ponds.

French Pond experienced a cyanobacteria bloom in **July** that lasted throughout the summer. A sample was collected and returned to the DES Limnology Center for analysis. A **Beach Advisory** was posted at the town and campground beaches warning the public of the presence of potentially toxic cyanobacteria. The cyanobacteria were identified as **Anabaena**, a potentially toxic cyanobacteria. Samples were collected from the beach areas regularly during the advisory period, and toxicity testing was performed. The Limnology Center accepts and analyzes cyanobacteria samples for the presence of microcystin, a liver toxin produced by certain cyanobacteria species. Microcystin test results for **7/30/2007** were **< 0.4 ug/L**, for **8/1/2007 (< 1.0 ug/L)**, for **8/7/2007 (0.7 ug/L)**, and for **8/28/2007 (< 0.4 ug/L)**. The World Health Organization (WHO) standard for microcystin in drinking water is **1.0 ug/L**. French Pond test results indicate toxin concentrations **less than** the WHO standard. To learn more about cyanobacteria and associated toxin production please refer to the Data Interpretation section of your report.

Cyanobacteria can reach nuisance levels when phosphorus loading from the watershed to surface waters is increased and favorable environmental conditions occur, such as a period of sunny, warm weather.

The presence of cyanobacteria serves as a reminder of the pond’s delicate balance. Watershed residents should continue to act proactively to reduce nutrient loading to the pond by eliminating fertilizer use on lawns, keeping the pond shoreline natural, re-vegetating cleared areas within the watershed, and properly maintaining septic systems and roads.

In addition, residents should also observe the pond in September and October during the time of fall turnover (lake mixing) to document any algal blooms that may occur. Cyanobacteria have the ability to regulate their depth in the water column by producing or releasing gas from vesicles. However, occasionally lake mixing can affect their buoyancy and cause them to rise to the surface and bloom. Wind and currents tend to “pile” cyanobacteria into scums that accumulate in one section of the pond. If a fall bloom occurs, please collect a sample in any clean jar or bottle and contact the VLAP Coordinator.

➤ **Secchi Disk Transparency**

Volunteer monitors use the Secchi disk, a 20 cm disk with alternating black and white quadrants, to measure how far a person can see into the water. Transparency, a measure of water clarity, can be affected by the amount of algae and sediment in the water, as well as the natural color of the water. Table 14 in Appendix A lists the current year transparency data. **The median summer transparency for New Hampshire's lakes and ponds is 3.2 meters.**

Figure 2 depicts the historical and current year transparency *with and without* the use of a viewscope.

The current year data (the top graph) includes both the non-viewscope and viewscope readings for **2007**.

The current year ***non-viewscope*** in-lake transparency was **1.63 meters** in **July**.

The ***viewscope*** in-lake transparency was not measured in **2007**.

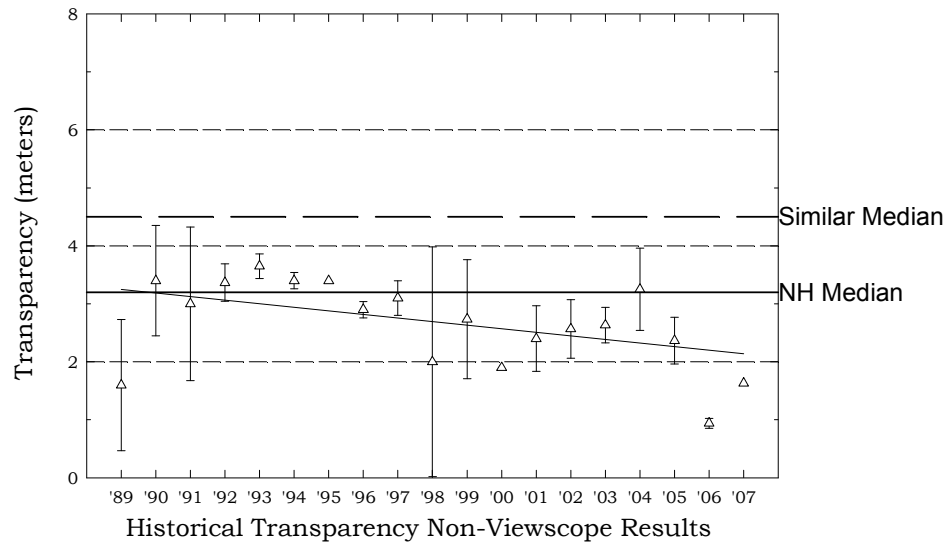
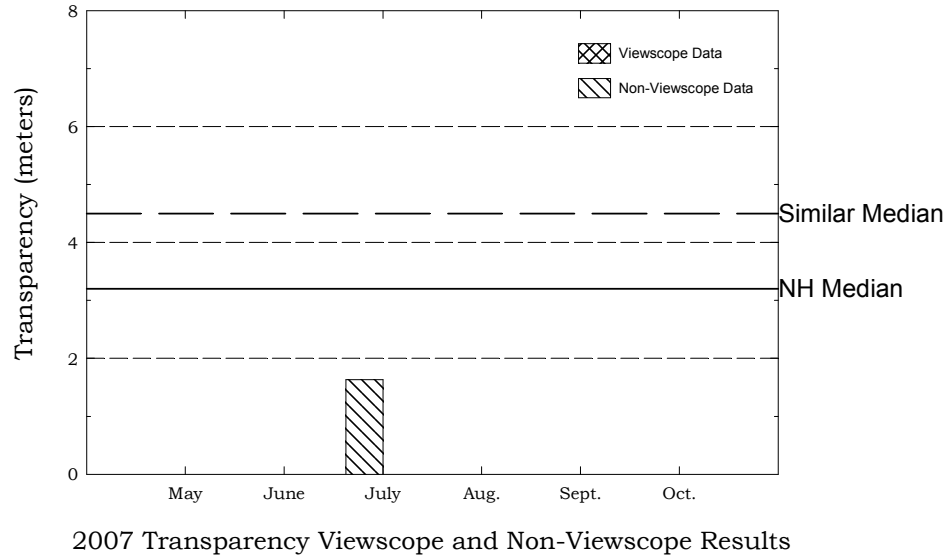
The historical data (the bottom graph) show that the **2007** mean non-viewscope transparency is ***much less than*** the state and similar lake medians. Please refer to Appendix D for more information about the similar lake median.

Visual inspection of the historical data trend line (the bottom graph) shows an ***decreasing*** trend, meaning that the transparency has ***worsened*** since monitoring began in **1989**.

Typically, high intensity rainfall causes sediment-laden stormwater runoff to flow into surface waters, thus increasing turbidity and decreasing clarity. Efforts should continually be made to stabilize stream banks, pond shorelines, disturbed soils within the watershed, and especially dirt roads located immediately adjacent to the edge of tributaries and the pond. Guides to best management practices that can be implemented to reduce, and possibly even eliminate, nonpoint source pollutants, are available from DES upon request.

French Pond, Henniker

Figure 2. Monthly and Historical Transparency Results



➤ **Total Phosphorus**

Phosphorus is typically the limiting nutrient for vascular plant and algae growth in New Hampshire's lakes and ponds. Excessive phosphorus in a pond can lead to increased plant and algal growth over time. Table 14 in Appendix A lists the current year total phosphorus data for in-lake and tributary stations. **The median summer total phosphorus concentration in the epilimnion (upper layer) of New Hampshire's lakes and ponds is 12 ug/L. The median summer phosphorus concentration in the hypolimnion (lower layer) is 14 ug/L.**

The graphs in Figure 3 depict the historical amount of epilimnetic (upper layer) and hypolimnetic (lower layer) total phosphorus concentrations; the inset graphs depict current year total phosphorus data.

The current year data for the epilimnion (the top inset graph) show that the phosphorus concentration was **17 ug/L** in **July**.

The ***slightly elevated*** epilimnetic phosphorus concentration measured on the **July** sampling event may have been due to phosphorus-enriched stormwater runoff that flowed into the surface layer of the pond. Weather records indicate that approximately **0.5 inches** of rainfall was measured **24 hours** prior to sampling.

The historical data show that the **2007** mean epilimnetic phosphorus concentration is ***greater than*** the state and similar lake medians. Refer to Appendix D for more information about the similar lake median.

The current year data for the hypolimnion (the bottom inset graph) show that the phosphorus concentration was **86 ug/L** in **July**.

The hypolimnetic (lower layer) turbidity sample was ***slightly elevated*** on the **July** sampling event (**6.26 NTUs**). This suggests that the pond bottom may have been disturbed by the anchor or by the Kemmerer Bottle while sampling and/or that the pond bottom is covered by an easily disturbed thick organic layer of sediment. When the pond bottom is disturbed, phosphorus rich sediment is released into the water column. When collecting the hypolimnion sample, make sure that there is no sediment in the Kemmerer Bottle before filling the sample bottles.

The historical data show that the **2007** mean hypolimnetic phosphorus concentration is ***much greater than*** the state and similar lake medians. Please refer to Appendix D for more information about the similar lake median.

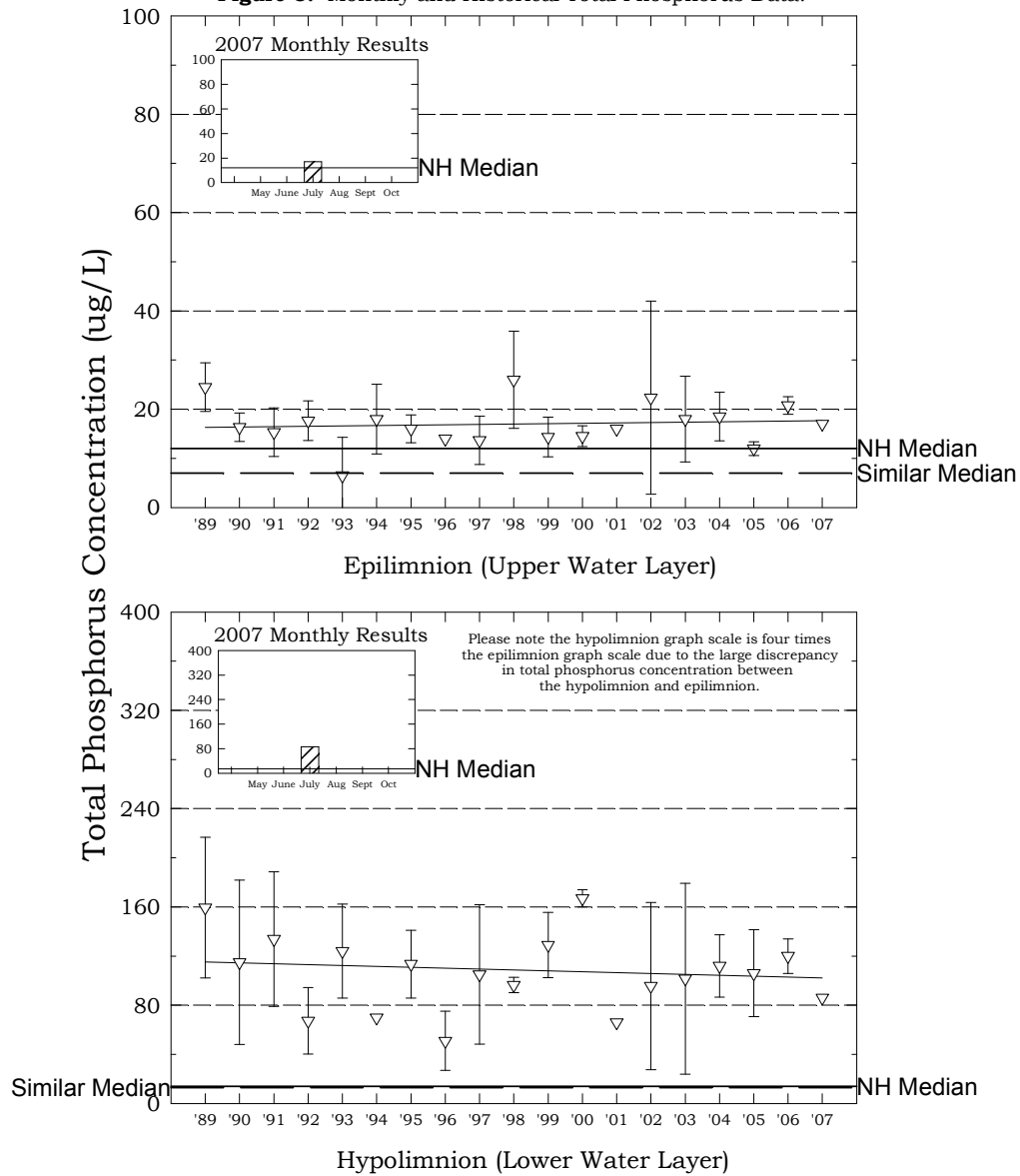
Overall, visual inspection of the historical data trend line for the epilimnion and hypolimnion shows a ***variable*** phosphorus trend since monitoring began. Specifically the mean annual epilimnetic phosphorus concentration has ***fluctuated between approximately 6.5 and 26.0 ug/L***, and the mean annual

hypolimnetic phosphorus concentration has ***fluctuated between approximately 51.0 and 159.5 ug/L***, since monitoring began in **1989**.

One of the most important approaches to reducing phosphorus loading to a waterbody is to continually educate watershed residents about the watershed sources of phosphorus and how excessive phosphorus loading can negatively affect the ecology and the recreational, economical, and ecological value of lakes and ponds.

French Pond, Henniker

Figure 3. Monthly and Historical Total Phosphorus Data.



➤ pH

Table 14 in Appendix A presents the current year pH data for the in-lake stations.

pH is measured on a logarithmic scale of 0 (acidic) to 14 (basic). pH is important to the survival and reproduction of fish and other aquatic life. A pH below 6.0 typically limits the growth and reproduction of fish. A pH between 6.0 and 7.0 is ideal for fish. The median pH value for the epilimnion (upper layer) in New Hampshire's lakes and ponds is **6.6**, which indicates that the state surface waters are slightly acidic. For a more detailed explanation regarding pH, please refer to the "Chemical Monitoring Parameters" section of this report.

The pH at the deep spot this year ranged from **7.22** in the epilimnion to **6.02** in the hypolimnion, which means that the epilimnion water is ***slightly basic*** and the hypolimnion water is ***slightly acidic***.

It is important to point out that the hypolimnetic (lower layer) pH was ***lower (more acidic)*** than in the epilimnion (upper layer). This increase in acidity near the bottom is likely due to the decomposition of organic matter and the release of acidic by-products into the water column.

Due to the state's abundance of granite bedrock and acid deposition received from snowmelt, rainfall, and atmospheric particulates, there is little that can be feasibly done to effectively increase pond pH. The pH at the deep spot, however, is sufficient to support aquatic life.

➤ Acid Neutralizing Capacity (ANC)

Table 14 in Appendix A presents the current year epilimnetic ANC for the deep spot.

Buffering capacity (ANC) describes the ability of a solution to resist changes in pH by neutralizing the acidic input. The median ANC value for New Hampshire's lakes and ponds is **4.9 mg/L**, which indicates that many lakes and ponds in the state are at least "moderately vulnerable" to acidic inputs. For a more detailed explanation about ANC, please refer to the "Chemical Monitoring Parameters" section of this report.

The acid neutralizing capacity (ANC) of the epilimnion (upper layer) was **7.3 mg/L**. This indicates that the pond is ***moderately vulnerable*** to acidic inputs.

➤ Conductivity

Table 14 in Appendix A presents the current conductivity data for in-lake stations.

Conductivity is the numerical expression of the ability of water to carry an electric current, which is determined by the number of negatively charged ions from metals, salts, and minerals in the water column. The median conductivity value for New Hampshire's lakes and ponds is **40.0 uMhos/cm**. For a more detailed explanation, please refer to the "Chemical Monitoring Parameters" section of this report.

The **2007** conductivity results for the deep spot were **lower than** has been measured **during the past few years**. It is likely that the lack of rainfall during the **2007** sampling season reduced watershed runoff to the pond. Typically, rain events and snow melt cause potentially pollutant laden watershed runoff to reach tributaries and ultimately the pond leading to elevated conductivity levels.

In addition, the in-lake conductivity is **greater than** the state median. Typically, increasing conductivity indicates the influence of pollutant sources associated with human activities. These sources include failed or marginally functioning septic systems, agricultural runoff, and road runoff which contains road salt during the spring snow-melt. New development in the watershed can alter runoff patterns and expose new soil and bedrock areas, which could also contribute to increasing conductivity. In addition, natural sources, such as iron and manganese deposits in bedrock, can influence conductivity.

It is possible that de-icing materials applied to nearby roadways during the winter months may be influencing the conductivity in the pond. In New Hampshire, the most commonly used de-icing material is salt (sodium chloride).

Therefore, we recommend that the **epilimnion** (upper layer) be sampled for chloride next year. This additional sampling may help us identify what areas of the watershed are contributing to the increasing in-lake conductivity.

Please note that the DES Limnology Center in Concord will be able to conduct chloride analyses, free of charge, beginning in 2008. As a reminder, it is best to conduct chloride sampling in the spring as the snow is melting and during rain events.

➤ **Dissolved Oxygen and Temperature**

Table 9 in Appendix A depicts the dissolved oxygen/temperature profile(s) collected during **2007**.

The presence of sufficient amounts of dissolved oxygen in the water column is vital to fish and amphibians and also to bottom-dwelling organisms. Please refer to the "Chemical Monitoring Parameters" section of this report for a more detailed explanation.

A dissolved oxygen profile was not collected in **2007**.

➤ **Turbidity**

Table 14 in Appendix A presents the current year data for in-lake turbidity.

Turbidity in the water is caused by suspended matter, such as clay, silt, and algae. Water clarity is strongly influenced by turbidity. Please refer to the “Other Monitoring Parameters” section of this report for a more detailed explanation.

The turbidity of the epilimnion (upper layer) sample was ***elevated (5.16 NTUs)*** on the **July** sampling event. This suggests that a rainstorm may have recently contributed stormwater runoff to the lake and/or an algal bloom had occurred in the lake.

The turbidity of the metalimnion (middle layer) sample was ***slightly elevated (3.75 NTUs)*** on the **July** sampling event. This suggests that cyanobacteria was present at this location. Algae are often found in the metalimnion of ponds due to the differences in density between the epilimnion and the hypolimnion and the resulting abundance of food in that layer.

As discussed previously, the hypolimnetic (lower layer) turbidity was ***elevated (6.26 NTUs)*** on the **July** sampling event. In addition, the hypolimnetic turbidity has been elevated on many sampling events during previous sampling years. This suggests that the pond bottom may have been disturbed by the anchor or by the Kemmerer Bottle while sampling and/or that the lake bottom is covered by an easily disturbed thick organic layer of sediment. When the pond bottom is disturbed, phosphorus rich sediment is released into the water column. When collecting the hypolimnion sample, make sure that there is no sediment in the Kemmerer Bottle before filling the sample bottles.

TRIBUTARY SAMPLING

➤ **Total Phosphorus**

Table 14 in Appendix A presents the current year total phosphorus data for tributary stations. Please refer to the “Chemical Monitoring Parameters” section of the report for a detailed explanation of total phosphorus.

Cow Brook, French Brook and **Launch Brook** were sampled during or immediately after significant rain events on **4/16/2007, 5/19/2007, and 6/4/2007**. The phosphorus concentrations were ***extremely elevated*** during the majority of sampling events at each site, and the turbidity was also ***elevated***.

Agricultural practices upstream of the sample sites are likely contributors to the elevated phosphorus and turbidity levels. Farm owners should be educated on best management practices (BMPs) to minimize nutrient loading and erosion to the pond. In the meantime, the tributaries should continue to be monitored during significant rain events.

➤ **pH**

Table 14 in Appendix A presents the current year pH data for the tributary stations. Please refer to the “Chemical Monitoring Parameters” section of this report for a more detailed explanation of pH.

The pH of the tributary station(s) ranged from **5.99 to 6.87 (> 6)** and is sufficient to support aquatic life.

Please note that pH was not measured in the samples collected on 5/19/2007. The “zero” in Table 14 is a placeholder.

➤ **Conductivity**

Table 14 in Appendix A presents the current conductivity data for the tributary stations. Please refer to the “Chemical Monitoring Parameters” section of the report for a more detailed explanation of conductivity.

Overall, tributary conductivity levels ***decreased*** during **2007**.

However, we recommend that your monitoring group conduct stream surveys and rain event sampling along the tributaries with ***elevated*** conductivity so that we can determine potential sources to the lake.

For a detailed explanation on how to conduct rain event sampling and stream surveys, please refer to the 2002 VLAP Annual Report special topic article, which

is posted on the VLAP website at
http://www.des.nh.gov/wmb/vlap/2002/documents/Appndxd_monitoring.pdf,
or contact the VLAP Coordinator.

➤ **Turbidity**

Table 14 in Appendix A presents the current year turbidity data for the tributary stations. Please refer to the “Other Monitoring Parameters” section of the report for a more detailed explanation of turbidity.

Overall, tributary turbidity levels **increased** during the **2007** sampling season.

Cow Brook, French Brook and **Launch Brook** experienced turbid conditions in **April** and **June**, likely the result of stormwater runoff from significant rain events prior to sampling. Rainfall washes sediment and organic materials into tributaries causing turbid water conditions. Eventually, the suspended solids settle out once the flow is reduced or the tributary flow enters the lake.

➤ **Bacteria (*E. coli*)**

Table 14 in Appendix A lists the current year data for bacteria (*E.coli*) testing. *E. coli* is a normal bacterium found in the large intestine of humans and other warm-blooded animals. *E.coli* is used as an indicator organism because it is easily cultured and its presence in the water, in defined amounts, indicates that sewage **may** be present. If sewage is present in the water, potentially harmful disease-causing organisms **may** also be present. Please refer to the “Other Monitoring Parameters” section of the report for a more detailed explanation.

The *E. coli* concentration in the **French Brook** and **French Brook 3** samples was **elevated** on the **5/20/2007** sampling event. The **> 20,000** counts per 100 mL concentration was **much greater than** the state standard of 406 counts per 100 mL for recreational waters that are not designated public beaches.

These counts are likely the result of agricultural runoff. We recommend that your monitoring group continue to conduct rain event sampling and bracket sampling next year in this area.

For a detailed explanation on how to conduct rain event sampling and stream surveys, please refer to the 2002 VLAP Annual Report special topic article, which is posted on the VLAP website at
http://www.des.nh.gov/wmb/vlap/2002/documents/Appndxd_monitoring.pdf,
or contact the VLAP Coordinator.

➤ **Chlorides**

Table 14 in Appendix A lists the current year data for chloride sampling. The chloride ion (Cl⁻) is found naturally in some surface waters and groundwaters and in high concentrations in seawater. Research has shown that elevated chloride levels can be toxic to freshwater aquatic life. In order to protect freshwater aquatic life in New Hampshire, the state has adopted **acute and chronic** chloride criteria of **860 and 230 mg/L** respectively. The chloride content in New Hampshire lakes is naturally low, generally less than 2 mg/L in surface waters located in remote areas away from habitation. Higher values are generally associated with salted highways and, to a lesser extent, with septic inputs. Please refer to the “Chemical Monitoring Parameters” section of this report for a more detailed explanation.

Chloride sampling was **not** conducted during **2007**.

DATA QUALITY ASSURANCE AND CONTROL

Annual Assessment Audit

Annual Assessment Audit:

An annual biologist visit and sampling procedures assessment audit was not conducted for your monitoring group in 2007.

*Please contact the VLAP Coordinator in **2008** to schedule your annual visit!*

Sample Receipt Checklist

Each time your monitoring group dropped off samples at the laboratory this summer, the laboratory staff completed a sample receipt checklist to assess and document if your group followed proper sampling techniques when collecting the samples. The purpose of the sample receipt checklist is to minimize, and hopefully eliminate, improper sampling techniques.

Overall, the sample receipt checklist showed that your monitoring group did an **excellent** job when collecting samples and submitting them to the laboratory this year! Specifically, the members of your monitoring group followed the proper field sampling procedures and there was no need for the laboratory staff to contact your group with questions, and no samples were rejected for analysis.

USEFUL RESOURCES

Acid Deposition Impacting New Hampshire's Ecosystems, DES fact sheet ARD-32, (603) 271-2975 or www.des.nh.gov/factsheets/ard/ard-32.htm.

Best Management Practices to Control Nonpoint Source Pollution: A Guide for Citizens and Town Officials, DES Booklet WD-03-42, (603) 271-2975.

Canada Geese Facts and Management Options, DES fact sheet BB-53, (603) 271-2975 or www.des.nh.gov/factsheets/bb/bb-53.htm.

Cyanobacteria in New Hampshire Waters Potential Dangers of Blue-Green Algae Blooms, DES fact sheet WMB-10, (603) 271-2975 or www.des.nh.gov/factsheets/wmb/wmb-10.htm.

Erosion Control for Construction in the Protected Shoreland Buffer Zone, DES fact sheet WD-SP-1, (603) 271-2975 or www.des.nh.gov/factsheets/sp/sp-1.htm.

Freshwater Jellyfish In New Hampshire, DES fact sheet WD-BB-5, (603) 271-2975 or www.des.nh.gov/factsheets/bb/bb-51/htm.

Impacts of Development Upon Stormwater Runoff, DES fact sheet WD-WQE-7, (603) 271-2975 or www.des.nh.gov/factsheets/wqe/wqe-7.htm.

IPM: An Alternative to Pesticides, DES fact sheet WD-SP-3, (603) 271-2975 or www.des.nh.gov/factsheets/sp/sp-3.htm.

Iron Bacteria in Surface Water, DES fact sheet WD-BB-18, (603) 271-2975 or www.des.nh.gov/factsheets/bb/bb-18.htm.

Lake Foam, DES fact sheet WD-BB-4, (603) 271-2975 or www.des.nh.gov/factsheets/bb/bb-5.htm.

Lake Protection Tips: Some Do's and Don'ts for Maintaining Healthy Lakes, DES fact sheet WD-BB-9, (603) 271-2975 or www.des.nh.gov/factsheets/bb/bb-9.htm.

Low Impact Development Hydrologic Analysis. Manual prepared by Prince George's County, Maryland, Department of Environmental Resources. July 1999. To access this document, visit www.epa.gov/owow/nps/lid_hydr.pdf or call the EPA Water Resource Center at (202) 566-1736.

Low Impact Development: Taking Steps to Protect New Hampshire's Surface Waters, DES fact sheet WD-WMB-16, (603) 271-2975 or www.des.nh.gov/factsheets/wmb/wmb-17.htm.

Proper Lawn Care In the Protected Shoreland, The Comprehensive Shoreland Protection Act, DES fact sheet WD-SP-2, (603) 271-2975 or www.des.nh.gov/factsheets/sp/sp-2.htm.

Road Salt and Water Quality, DES fact sheet WD-WMB-4, (603) 271-2975 or www.des.nh.gov/factsheets/wmb/wmb-4.htm.

Sand Dumping - Beach Construction, DES fact sheet WD-BB-15, (603) 271-2975 or www.des.nh.gov/factsheets/bb/bb-15.htm.

Shorelands Under the Jurisdiction of the Comprehensive Shoreland Protection Act, DES fact sheet SP-4, (603) 271-2975 or www.des.nh.gov/factsheets/sp/sp-4.htm.

Soil Erosion and Sediment Control on Construction Sites, DES fact sheet WQE-6, (603) 271-2975 or www.des.nh.gov/factsheets/wqe/wqe-6.htm.

Through the Looking Glass: A Field Guide to Aquatic Plants, North American Lake Management Society, 1988, (608) 233-2836 or www.nalms.org.

Weed Watchers: An Association to Halt the Spread of Exotic Aquatic Plants, DES fact sheet WD-BB-4, (603) 271-2975 or www.des.nh.gov/factsheets/bb/bb-4.htm.

Watershed Districts and Ordinances, DES fact sheet WD-WMB-16, (603) 271-2975 or www.des.nh.gov/factsheets/wmb/wmb-16.htm.